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ABSTRACTS BOOK
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TRIPLOID LIME IS MORE TOLERANT TO HLB THAN DIPLOID LIME BECAUSE SPECIFIC PHYSIOLOGICAL AND ANATOMICAL TRAITS ASSOCIATED TO BETTER DETOXIFICATION PROCESSES.

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ABSTRACT: Considered a major issue in citrus growing, Huanglongbing (HLB), also known as Citrus Greening or yellow dragon disease, is a citrus bacterial disease. This disease is caused by the bacteria *Candidatus Liberibacter* spp that is spread by Diaphorina citri, also called citrus psylla. This stinging insect allows a rapid spread of tree disease trees by feeding on the leaf petiole. In the short term, the HLB causes a decline and the death of trees. In Brazil and Florida, the disease affects several million trees and thousands of hectares have had to be torn down. This disease affects the entire Caribbean basin including Guadeloupe and Martinique. After the bite leading to HLB infection, the reaction of the plant will result in the synthesis of callose in the pores of the phloem sieve cells thus leading to a stop of elaborated sap flow. Today, there is no pure resistance to HLB within the Citrus genus. However, the Tahiti limer (natural triploid variety, 3x) is much less affected by the disease (Gomez, 2008), other diploid varieties (2x) being very sensitive. Our study was to decipher the potential traits of tolerance to HLB related to polyploidy. Diploid (2x, *Citrus aurantiifolia*) and triploid (3x, *Citrus latifolia*) limes grafted onto diploid citrumelo 4475 (*Citrus paradisi* × *Poncirus trifoliata*) rootstocks were investigated when naturally infected by HLB or infected by grafting. The plant physiology, the anatomy, of leaf petiole were analyzed using Scanning Electron Microscope to observe callose deposition at sieve plate of the phloem, as well leaf starch content and detoxification enzyme activities in 2x and 3x leaves were investigated. The results of these experiments seem to show that 3x are more tolerant than 2x.